

CLAIM AMENDMENTS

1-115. (canceled)

116. (new): A method of silencing a target gene in the cell by post-transcriptional gene silencing (PTGS) which method comprises introducing into said cell short RNA molecules (SRMs) sequences of about 20-30 nucleotides complementary to a region of a target gene which is silenced when said short RNA molecules are present in a cell containing said target gene,

which SRMs comprise equimolar amounts of short sense RNA molecules (SSRMs) and short antisense RNA molecules (SARMs); and

wherein the nucleotide sequences of the SSRMs and SARMs consist of about 20-30 nucleotides.

117. (new): The method of claim 116, wherein the cells are contained in said organism and said introducing comprises administering said SRMs to the organism.

118. (new): The method of claim 116, wherein the SRMs are synthetic.

119. (new): The method of claim 116, wherein the SRMs have a structure complementary to a target gene endogenous to an organism selected. from the group consisting of a plant, a mammal, an avian organism, a reptile, an insect, a protozoan, and a nematode.

120. (new): A method of silencing a target gene in the cell of an organism by post-transcriptional gene silencing (PTGS) which method comprises introducing into said cell a composition comprising isolated short antisense RNA molecules (SARMs) and isolated corresponding short sense RNA molecules (SSRMs), the nucleotide sequences of which consist of 20-30 nucleotides and wherein said SARMs can base pair with a target RNA.

121. (new): The method of claim 120, wherein said SARMs and SSRMs are present at equal abundance.

122. (new): The method of claim 120, wherein the cells are contained in an organism and said introducing comprises administering said SSRMs and SARMs to the organism.

123. (new): The method of claim 120, wherein the SSRMs and SARMs are synthetic.

124. (new): The method of claim 120, wherein the SSRMs and SARMs have a structure complementary to a target gene endogenous to an organism selected. from the group consisting of a plant, a mammal, an avian organism, a reptile, an insect, a protozoan, and a nematode.